Para-Acetabular Bony and Calcific Fragments in Patients with Femoroacetabular Impingement: A Retrospective Assessment of Prevalence and Characteristics

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Femoroacetabular impingement (FAI) is a common cause of hip pain. Bony morphologic factors including pincer and cam morphology are well understood contributors to chondro-labral injury. Associated radio-opaque densities are often noted adjacent to the acetabular rim.
• Radio-opaque densities:
  • Os acetabulum
  • Acetabular rim fracture
  • Amorphous calcific densities
PURPOSE

• Evaluate prevalence, characteristics, and patient specific factors associated with para-acetabular radio-opaque densities (RODs) in FAI patients.
METHODS

- Retrospective review of patients undergoing hip arthroscopy for FAI (Nov 2014 – March 2018)
- Age, gender
- Lateral Center Edge Angle (LCEA), Alpha angle
- Plain radiographs and preoperative CT reviewed
- Operative reports reviewed for arthroscopic correlation
204 patients

- Age: mean 33.7 years
- 33/204 (16.2%) patients had densities on CT
- No difference in age, gender, LCEA, alpha angle in patients with or without densities
RESULTS

• Location: 29/33 (87.9%) of RODs located in anterosuperior quadrant (12:00 to 3:00 o’clock)

• 31/33 (94%) labrum treated with labral repair + FAI correction (remaining 2 – focal debridement)

• 22/33 (67%) of RODs identified on CT were visible on XRs
RESULTS

- Time of surgery:
  - 13/33 (39.4%) bony fragments
  - 12/33 (36.4%) amorphous calcific densities
  - 3/33 (9.1%) fibrous cleft
  - 5/33 (15.1%) – no loose fragments identified surgically
LIMITATIONS

• Patients without CT excluded from study (selection bias?)

• Single reviewer for images.

• Only patients selected for hip arthroscopy included – more arthritic patients who were not selected for arthroscopy may have higher frequency fragments.

• Decision for labral repair vs debridement based on single surgeon’s judgement of labral tissue quality.
CONCLUSIONS

- Age, gender, LCE angle, alpha angle not predictive of presence of RODs
- 1/6 of patients undergoing arthroscopy for FAI had RODs on CT
- CT may be more sensitive for identifying RODs
- Most hips still amenable to labral repair, despite RODs
REFERENCES